

# **TENDER SPECIFICATION**

**NO: BHE/PW/PUR/VNT-ENB/VNT5-ENB/1049**

CONSTRUCTION OF CLOSED SHED (60MX15M – 1 NO.) WITH C&I STORE ROOM AND MATERIALS MANAGEMENT OFFICE, RENOVATION OF EXISTING BHEL SITE OFFICE AND STRUCTURAL SHEDS 3 NOS., REPAIR OF OLD CONCRETE PLATFORM, ROADS & DRAINS, REFURBISHMENT OF EXISTING YARD (20,000 SQM APPROX.), DEVELOPMENT OF OPEN STORAGE YARD (40,180 SQM APPROX.) AT NEW LOCATION ALONG WITH ITS ILLUMINATION, ROADS, DRAINS, FENCING ETC.

**AT**

**1X500 MW**

**NATIONAL THERMAL POWER CORPORATION (NTPC)  
PO: VINDHYACHAL, DIST- SINGRAULI, MADHYA PRADESH**

## **TECHNICAL BID - VOLUME- IA**

**TENDER SPECIFICATIONS CONSISTS OF:**

- Notice Inviting Tender,
- Technical Conditions of Contract,
- Special conditions of Contract,
- General conditions of Contract
- Forms & Procedures

**VOLUME I**



**Bharat Heavy Electricals Limited**  
(A Government of India Undertaking)  
Power Sector - Western Region  
345-Kingsway, Nagpur-440001

CONTENTS			
Volume No	Description	Hosted in website bhel.com as files titled	No. of pages
NIL	Tender Specification Issue Details	(Part of <b><u>Vol-IA-1049</u></b> )	1
NIL	Notice Inviting Tender	(Part of <b><u>Vol-IA-1049</u></b> )	13
I-A	Technical Conditions of Contract	Vol-IA-1049	60
I-B	Special Conditions of Contract	Vol-IBCD-1049	47
I-C	General Conditions of Contract	(Part of <b><u>Vol-IBCD-1049</u></b> )	29
I-D	Forms & Procedures	(Part of <b><u>Vol-IBCD-1049</u></b> )	54
II	Price Bid Specification	Vol-II-1049	
	Tender Drawing	Tender Drawing-1049	

LEGEND:

This document (i.e. NIT & Vol-I A) is hosted in BHEL web page ([www.bhel.com](http://www.bhel.com)) as a (Vol- I-TECH BID-1049) of Technical Bid

\$: **“Vol I -B, I-C, I-D” of Part-I (Vol- I)** Hosted in BHEL web page ([www.bhel.com](http://www.bhel.com)) separately as a part of Technical Bid.

@: **Price bid is** issued as a separate hard copy booklet ‘Tender Specifications – Volume-II (Price Bid-)’. Hosted in BHEL web page ([www.bhel.com](http://www.bhel.com)) separately as titled **“VOL-II-PRICE BID-1049”**

## **Tender Specification Issue Details**

**Tender Specification No: BHE/PW/PUR/VNT-ENB/VNT5-ENB/1049**

**CONSTRUCTION OF CLOSED SHED (60MX15M – 1 NO.) WITH C&I STORE ROOM AND MATERIALS MANAGEMENT OFFICE, RENOVATION OF EXISTING BHEL SITE OFFICE AND STRUCTURAL SHEDS 3 NOS., REPAIR OF OLD CONCRETE PLATFORM, ROADS & DRAINS, REFURBISHMENT OF EXISTING YARD (20,000 SQM APPROX.), DEVELOPMENT OF OPEN STORAGE YARD (40,180 SQM APPROX.) AT NEW LOCATION ALONG WITH ITS ILLUMINATION, ROADS, DRAINS, FENCING ETC.**

**AT  
1X500 MW  
NATIONAL THERMAL POWER CORPORATION (NTPC)  
VINDHYACHAL, DIST. - SINGRAULI.  
MADHYA PRADESH**

**EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender**

**LAST DATE FOR                      Refer Notice Inviting Tender  
TENDER SUBMISSION.**

**THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND VOLUME- II  
ARE ISSUED TO:**

**M/s. ....**

**.....**

**PLEASE NOTE:  
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.**

**For Bharat Heavy Electricals Limited**

**DY. GENERAL MANAGER (Purchase)  
Place: Nagpur  
Date:**

1049

# NOTICE INVITING TENDER

(Document No PS:MSX:NIT:Rev 01 dated  
1<sup>st</sup> Jun 2012)

Bharat Heavy Electricals Limited



Ref: BHE/PW/PUR/VNT5-ENB/1049

Date: 17/08/2012

## **NOTICE INVITING TENDER (NIT)**

**NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES  
OR  
PURCHASE TENDERS FROM THIS OFFICE ALSO**

=====

To

Dear Sir/Madam

**Sub: NOTICE INVITING TENDER**

Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting [PRE QUALIFICATION CRITERIA](#) as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

### **1.0 Salient Features of NIT**

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	BHE/PW/PUR/VNT5-ENB/1049
ii	Broad Scope of job	CONSTRUCTION OF CLOSED SHED (60MX15M – 1 NO.) WITH C&I STORE ROOM AND MATERIALS MANAGEMENT OFFICE, RENOVATION OF EXISTING BHEL SITE OFFICE AND STRUCTURAL SHEDS 3 NOS., REPAIR OF OLD CONCRETE PLATFORM, ROADS & DRAINS, REFURBISHMENT OF EXISTING YARD (20,000 SQM APPROX.), DEVELOPMENT OF OPEN STORAGE YARD (40,180 SQM APPROX.) AT NEW LOCATION ALONG WITH ITS ILLUMINATION, ROADS, DRAINS, FENCING ETC. AT 1X500 MW NATIONAL THERMAL POWER CORPORATION VINDHYACHAL, DIST. - SINGRAULI. MADHYA PRADESH
iii	DETAILS OF TENDER DOCUMENT	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of</i> <span style="float: right;"><i>Applicable</i></span>

**BHEL PSWR**  
**Notice Inviting Tender**

Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049

Page 6 of 56

\*\*\*\*\*

		<i>Quantities, Terms of payment, etc</i>	
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i>	<i>Applicable</i>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i>	<i>Applicable</i>
d	Volume-ID	<i>Forms and Procedures</i>	<i>Applicable</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i>	<i>Applicable</i>
iv	Issue of Tender Documents	<p><b>1. <u>Sale from BHEL PS WR office at NAGPUR :</u></b>  <b>Start 28/09/2012 :</b>  <b>Closes: 18/10/2012, Time :16.00 Hrs</b></p> <p><b>2. From BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>)</b>  Tender documents will be available for downloading from website till due date of submission</p>	<i>Applicable</i>
v	DUE DATE & TIME OF OFFER SUBMISSION	<p><b>Date : 19/10/2012, Time : 15.00 Hrs</b>  <b>Place : <u>BHEL PS Regional office at :Nagpur</u></b>  Tenders being submitted through representative shall be handed over to any of the following BHEL officials after making entry/registration at the reception:  S M Borkar / DGM (Purchase)  Shivkesh Meena / Engineer Trainee (Purchase)</p>	<i>Applicable</i>
vi	OPENING OF TENDER	<p><b>Date : 19/10/2012, Time : 16:00 Hrs</b>  Notes:  (1) In case the due date of opening of tender becomes a non-working day, then the due date &amp; time of offer submission and opening of tenders get extended to the next working day.  (2) Bidder may depute representative to witness the opening of tender</p>	<i>Applicable</i>
vii	EMD AMOUNT	<b>Rs 2.00 Lakhs ( Rs Two Lakhs Only)</b>	<i>Applicable</i>
viii	COST OF TENDER	<i>Rs 2000/-. (Rs Two Thousand only)</i>	<i>Applicable/Not Applicable</i>
ix	LAST DATE FOR SEEKING	<i>Atleast 2 days before the due date of offer submission</i>	<i>Applicable</i>

**BHEL PSWR**  
**Notice Inviting Tender**

Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049

Page 7 of 56

\*\*\*\*\*

	<b>CLARIFICATION</b>	<i>Along with soft version also, addressing to undersigned &amp; to others as per contact address given below</i>	
x	<b>SCHEDULE OF Pre Bid Discussion (PBD)</b>	<i>Date :</i>	<i>Applicable/Not applicable.</i>
xi	<b>INTEGRITY PACT &amp; DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)</b>	----	<i>Applicable/Not Applicable</i>
xii	<b>Latest updates</b>	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage ( <a href="http://www.bhel.com">www.bhel.com</a> -->Tender Notifications →View Corrigendums) <b>and not in the newspapers</b> . Bidders to keep themselves updated with all such information	

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed & stamped on each page, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**
- 3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Nagpur issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Nagpur, Sundays and second/ last Saturdays
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Nagpur. For other details and for 'One Time EMD' please refer General Conditions of Contract.
- 5.0 **Procedure for Submission of Tenders:** The Tenderers must submit their Tenders to Officer inviting Tender, as detailed below:

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 8 of 56**

\*\*\*\*\*

- PART-I consisting of 'PART-I A (Techno Commercial Bid)'& 'PART-I B (EMD/COST of TENDER)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
- PART-II (Price Bid) – in sealed and superscribed envelope (ENVELOPE-III)
- One set of tender documents shall be retained by the bidder for their reference

6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below. **(All pages to be signed and stamped)**

Sl no	Description	Remarks
	<b>Part-I A</b>	
	<b>ENVELOPE – I superscribed as :</b> PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:	
	<b>CONTAINING THE FOLLOWING:-</b>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.  <b>Note:</b> <ol style="list-style-type: none"> <li>a. In case of any deviation, the same should be submitted separately for technical &amp; commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</li> <li>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.               <ol style="list-style-type: none"> <li>i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</li> <li>ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender</li> </ol> </li> </ol>	
iii.	Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria.  It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical Conditions of Contract (TCC)</u> consisting of	



**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 9 of 56**

\*\*\*\*\*

	Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

	<b>PART-I B</b>	
	<b><u>ENVELOPE – II superscribed as:</u></b> PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:	
	<b>CONTAINING THE FOLLOWING:-</b>	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender  <div style="text-align: center;"><b>OR</b></div> Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender  2. Cost of Tender ( Demand Draft or copy of Cash Receipt as the case may be)	

	<b>PART-II</b>	
	<b>PRICE BID</b> consisting of the following shall be enclosed	
	<b><u>ENVELOPE-III</u></b> superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:	
	<b>CONTAINING THE FOLLOWING</b>	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID ( Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

	<b>OUTER COVER</b>	
	<b><u>ENVELOPE-IV</u></b> (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK:	

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 10 of 56**

\*\*\*\*\*

	PROJECT: DUE DATE OF SUBMISSION:	
	<b>CONTAINING THE FOLLOWING:</b>	
i	<ul style="list-style-type: none"><li>○ Envelopes I</li><li>○ Envelopes II</li><li>○ Envelopes III</li></ul>	

**SPECIAL NOTE :** All documents / annexure's submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.

7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.

8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

**9.0 Assessment of Capacity of Bidders:**

**Bidders capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:**

- I. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if latest bid submission is in Aug 2011, then the 'load' shall be calculated upto and inclusive of June 2011)

- i). **Total number of Packages**

Total number of Packages in hand = P

Where

- P is the sum of all unit wise identified packages under execution with BHEL Regions as of the cut off month defined above, including packages yet to be commenced.

- ii) **Weightage "A" assigned to bidders based on Total number of Packages**

**'P':**

- a) If 'P' = 0-9, : "A" will be equal to '4'
- b) If 'P' = 10-18, : "A" will be equal to '3'
- c) If 'P' = 19-36, : "A" will be equal to '2'
- d) If 'P' = 37-60, : "A" will be equal to '1'

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 11 of 56**

\*\*\*\*\*

e) If 'P' is above 60 : "A" will be equal to '0'

- II. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (**under execution/** executed during the 'Period of Assessment' in all the Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the month two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

**(Note:** For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for all the unit wise identified packages (refer Table I)

- i). Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions:  
This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:
- a)  $P_1, P_2, P_3, P_4, P_5, \dots, P_N$  etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions =  $P_T$  ( i.e  $P_T = P_1 + P_2 + P_3 + P_4 + \dots P_N$  )
- b) Number of Months ' $T_1$ ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package  $P_1$ . Similarly  $T_2$  for package  $P_2$ ,  $T_3$  for package  $P_3$ , etc for the tendered scope. Now calculate cumulative total months ' $T_T$ ' for total similar Packages ' $P_T$ ' for all Regions ( i.e  $T_T = T_1 + T_2 + T_3 + T_4 + \dots T_N$  )
- c) Sum ' $S_1$ ' of 'Monthly Performance Evaluation' Scores ( $S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots S_{1-N}$  ) for similar package  $P_1$ , for the 'period of assessment' ' $T_1$ ' (i.e  $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots S_{1-N}$ ). Similarly  $S_2$  for package  $P_2$  for period  $T_2$ ,  $S_3$  for package  $P_3$  for period  $T_3$ , etc for the tendered scope for all Regions. Now calculate cumulative sum ' $S_T$ ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' $P_T$ ' for all Regions (i.e ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots S_N$ .)
- d) **Overall Performance Rating ' $R_{BHEL}$ ' for the similar Package/Packages (under execution/** executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL):

**Aggregate of Performance scores for all similar packages in all the Regions**

**BHEL PSWR**  
**Notice Inviting Tender**

Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049

Page 12 of 56

\*\*\*\*\*

= -----

**Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions**

$$= \frac{S_T}{T_T}$$

- e) Bidders to note that the risk of non evaluation or non availability of the 'Monthly Performance Evaluation' reports as per relevant formats is to be borne by the Bidder

**f) Table showing methodology for calculating 'a', 'b' and 'c' above**

S l o	Item Description	Details for all Regions							Total
		(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	
(i)	(ii)								(x)
1	Similar Packages for all Regions →	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>	...	P <sub>N</sub>	Total No of similar packages for all Regions = <b>P<sub>T</sub></b> ie Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which 'Monthly Performance Evaluation' as per relevant formats should have been done in the 'period of assessment for corresponding similar Package ( as in row 1)	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	...	T <sub>N</sub>	Sum (Σ) of columns (iii) to (ix)  <b>= T<sub>T</sub></b>
3	Monthly performance scores for the corresponding period (as in Row 2)	S <sub>1-1</sub> , S <sub>1-2</sub> , S <sub>1-3</sub> , S <sub>1-4</sub> , ... S <sub>1-T1</sub>	S <sub>2-1</sub> , S <sub>2-2</sub> , S <sub>2-3</sub> , S <sub>2-4</sub> , ... S <sub>2-T2</sub>	S <sub>3-1</sub> , S <sub>3-2</sub> , S <sub>3-3</sub> , S <sub>3-4</sub> , S <sub>3-5</sub> , ... S <sub>3-T3</sub>	S <sub>4-1</sub> , S <sub>4-2</sub> , S <sub>4-3</sub> , S <sub>4-4</sub> , S <sub>4-5</sub> , ... S <sub>4-T4</sub>	S <sub>5-1</sub> , S <sub>5-2</sub> , S <sub>5-3</sub> , S <sub>5-4</sub> , S <sub>5-5</sub> , ... S <sub>5-T5</sub>	.. ... ... ...	S <sub>N-1</sub> , S <sub>N-2</sub> , S <sub>N-3</sub> , S <sub>N-4</sub> , ... S <sub>N-TN</sub>	-----

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 13 of 56**

\*\*\*\*\*

4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	$S_1$	$S_2$	$S_3$	$S_4$	$S_5$	...	$S_N$	Sum ( $\Sigma$ ) of columns (iii) to (ix)  $= S_T$
---	---	-------	-------	-------	-------	-------	-----	-------	--

ii) Weightage “B” assigned to bidders based on Overall Performance Rating ( $R_{BHEL}$ ) at Power Sector Regions, for the respective Package:

- a) If  $R_{BHEL} \geq 80\%$ , “B” will be equal to ‘6’
- b) If  $R_{BHEL} \geq 75\% < 80\%$ , “B” will be equal to ‘5’
- c) If  $R_{BHEL} \geq 70\% < 75\%$ , “B” will be equal to ‘4’
- d) If  $R_{BHEL} \geq 65\% < 70\%$ , “B” will be equal to ‘3’
- e) If  $R_{BHEL} \geq 60\% < 65\%$ , “B” will be equal to ‘2’
- f) If  $R_{BHEL} < 60\%$ , “B” will be equal to ‘0’

**III. ‘Assessment of Capacity of Bidder’ to be Qualified for the tender:**

**Shall be based on the sum of the weightages obtained in ‘LOAD’ (A) and ‘PERFORMANCE’ (B) as below:**

- a) **If the sum (A+B) is 6 or above for each of the applicable Package, then the Bidder is considered ‘Qualified’ for the tender**
- b) **If the sum (A+B) is less than 6 for any of the applicable Package, then the Bidder is considered ‘NOT Qualified’ for the tender**

**IV. Explanatory note:**

- a) Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or CI, etc at the individual level irrespective of rating of Plant, and irrespective of whether the subject tender is a single package or as part of combined/composite packages. Normally Boiler, ESP, Piping, Turbine, Electrical, CI, Civil, Structure, etc is considered individual level of package. For example in case the tendered scope is a Boiler Vertical Package comprising of Boiler, ESP and Power Cycle Piping (i.e the ‘identified packages as per Table-1 below), the ‘PERFORMANCE’ part against sl no II above, needs to be evaluated considering all the identified packages (ie Boiler, ESP and Power Cycle Piping) and finally the Bidder’s capacity to execute the tendered scope is assessed in line with III above
- b) Identified Packages (Unit wise)

**Table-1**

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 14 of 56**

\*\*\*\*\*

	Civil	Electrical & CI	Mechanical
	i). Enabling works ii). Pile and Pile Caps iii). Civil Works including foundations iv). Structural Steel Fabrication & Erection v). Chimney vi). Cooling Tower vii). Others (Civil)	i). Electrical ii). CI iii). Others (Elec& CI)	i). Boiler & Aux (All types including CW Piping if applicable) ii). Power Cycle Piping/Critical Piping iii). LP Piping iv). ESP v). Steam Turbine Generator set & Aux vi). Gas Turbine Generator set & Aux vii). Hydro Turbine Generator set & Aux viii). Turbo Blower (including Steam Turbine) ix). Material Handling x). Material Management xi). Material Handling & Material Management xii). Others (Mechanical)

- c) Vendors who are first timers to any BHEL Region, may be considered subject to satisfying other tender conditions. Eligibility of the party for the next tender of any package in that Region, shall be subject to the bidder satisfying the 'Assessment of Capacity of Bidder' for a period of first **nine months** after commencement of work or contract duration whatever is lesser.

In case the first timer is executing any other packages in any BHEL Region, then the performance evaluation will be based on the data available for the other packages though not similar, for the 'Period of assessment', for the purpose of 'Assessment of Capacity of Bidder'

- d) Vendors who are not first timers and who have not been executing any package or packages similar to the packages under the tender in the 'Period of assessment', shall be considered qualified subject to them satisfying all other tender conditions.
- e) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders', then BHEL at its discretion, reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R<sub>BHEL</sub>'** only.
- f) 'Under execution' shall mean works in progress as per the following:
- i. upto Boiler Steam Blowing in case of Steam Generator and Auxiliaries
  - ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
  - iii. upto execution of at least 75% of anticipated contract value (unit wise), in case of Enabling works or Civil & Structures.

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 15 of 56**

\*\*\*\*\*

Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.

g) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work

- 10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 16 of 56**

\*\*\*\*\*

18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.

19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .

However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.

20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.

21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.

22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.

23.0 Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:

23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.

23.2 'Stand alone' bidder cannot become a **Prime Bidder' or a 'Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding**. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.

23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR

23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work

23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0

23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'



**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 17 of 56**

\*\*\*\*\*

- 23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified
- 23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.
- 23.9 Prime Bidder shall be responsible for the overall execution of the contract
- 23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats
- 23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.
- 23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.
- 23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.
- 23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 Order of Precedence  
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
  - b. Notice Inviting Tender (NIT)
  - c. Price Bid
  - d. Technical Conditions of Contract (TCC)—Volume-1A
  - e. Special Conditions of Contract (SCC) —Volume-1B
  - f. General Conditions of Contract (GCC) —Volume-1C

**BHEL PSWR  
Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 18 of 56**

\*\*\*\*\*

g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD

AGM/Purchase

**Enclosure**

- 01. Annexure-1: Pre Qualifying criteria.
- 02. Annexure-2: Check List .
- 03. Annexure-3: Important Infor
- 04. Other Tender documents as per this NIT.

**ANNEXURE - 1**

**PRE QUALIFYING REQUIREMENTS**

JOB	CONSTRUCTION OF CLOSED SHED (60MX15M – 1 NO.) WITH C&I STORE ROOM AND MATERIALS MANAGEMENT OFFICE, RENOVATION OF EXISTING BHEL SITE OFFICE AND STRUCTURAL SHEDS 3 NOS., REPAIR OF OLD CONCRETE PLATFORM, ROADS & DRAINS, REFURBISHMENT OF EXISTING YARD (20,000 SQM APPROX.), DEVELOPMENT OF OPEN STORAGE YARD (40,180 SQM APPROX.) AT NEW LOCATION ALONG WITH ITS ILLUMINATION, ROADS, DRAINS, FENCING ETC. AT 1X500 MW NATIONAL THERMAL POWER CORPORATION VINDHYACHAL, DIST. - SINGRAULI. MADHYA PRADESH
TENDER NO	BHE/PW/PUR/VNT5-ENB/1049

SL NO	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. <b>Bidder must fill up this column as per applicability</b>
A	Submission of Integrity Pact duly signed (if applicable)	<b>NOT APPLICABLE</b>	
B	<b><u>Technical</u></b>  Bidder must have successfully completed the Civil work of Construction of Building / Storages Shed / Industrial Building <b>AND</b>	APPLICABLE	

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 19 of 56**

\*\*\*\*\*

	<p>WBM Road Work in the last seven years as on latest date of offer submission as below.</p> <p>i)Single work order <b>of Rs 280 Lakhs</b> or of more value consisting of Construction of Building Work/ Storages Shed / Industrial Building <b>&amp; WBM Road work</b>.</p> <p style="text-align: center;"><b>OR</b></p> <p>ii)Two work orders of <b>Rs 175 Lakhs</b> each or of more value. (i.e. Against this bidder must have executed one work of construction of Building /Storages Shed / Industrial Building of Rs 175 Lakhs and One work of WBM Road of 175 Lakhs <b>or</b> bidder must have executed two works of each of Rs 175 lakhs consisting of Construction of Building Work/ Storages Shed / Industrial Building <b>&amp; WBM Road work</b>)</p> <p style="text-align: center;"><b>OR</b></p> <p>iii)Three work orders of <b>Rs 140 lakhs</b> each or of more value.( i.e. Against this bidder must have executed one work of construction of Building /Storages Shed / Industrial Building of Rs 140 Lakhs <b>and</b> One work of WBM Road of 140 Lakhs <b>and</b> executed one work of construction of Building Storages Shed / Industrial Building /WBM Road of Rs 140 Lakhs <b>or</b> bidder must have executed three works each of Rs 140 lakhs consisting of Construction of Building Work/ Storages Shed / Industrial Building <b>&amp; WBM Road work</b> )</p>		
C-1	<p><b><u>Financial Turnover</u></b></p> <p>Bidders must have achieved an average annual financial turnover (Audited) of <b>Rs 105 Lakhs</b> or more over last three Financial Years (FY) i.e. 2009-2010, 2010-2011, 2011-12 .</p>	APPLICABLE	

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 20 of 56**

\*\*\*\*\*

C-2	NETWORTH (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive	APPLICABLE	
C-3	PROFIT Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.	APPLICABLE	
D	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)	APPLICABLE	By BHEL
E	Approval of Customer (if applicable)  Note: Names of bidders (including consortium/Technical Tie up partners in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval.	NOT APPLICABLE	
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E	APPLICABLE	BY BHEL
F	Consortium criteria (if applicable)	NOT APPLICABLE	
<p><b><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></b></p> <ol style="list-style-type: none"> <li>1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures</li> <li>2. In case audited Financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three.</li> <li>3. C-2:-NETWORTH : Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)</li> <li>4. C-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in C-1 above</li> <li>5. 'Additional' Criteria in respect of 'Technical' criteria of PQR (as in 'B' above) for Civil, Electrical, CI, unless otherwise specified : <ol style="list-style-type: none"> <li>1. Bidder should have executed similar work of any one of the following: <ol style="list-style-type: none"> <li>a. One (1) work of value not less than Rs XXX</li> <li>OR</li> <li>b. Two (2) works of not less than Rs YYY</li> </ol> </li> </ol> </li> </ol>			

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 21 of 56**

\*\*\*\*\*

	<p style="text-align: center;">OR</p> <p>c. Three (3) works of not less than Rs ZZZ (Value XXX, YYY, ZZZ shall be as indicated by BHEL</p> <p>2. 'Similar' work for criteria 5 above means</p> <p>a. Civil or Structures or Civil &amp; Structures or Chimney respectively as applicable to the tendered scope in respect of 'CIVIL' Works</p> <p>b. Electrical works in respect of 'ELECTRICAL'</p> <p>c. CI works in respect of 'CI' Works</p> <p>d. Material Handling and/or Management works in respect of 'MM' works</p> <p>6. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date' of Bid submission</p> <p>7. 'EXECUTED' means the Vendor should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed</p> <p>8. <del>Unless otherwise specified, for the purpose of 'Technical' criteria of PQR (as in 'B' above), the word 'EXECUTED' means:</del></p> <p>1. <del>"BOILER LIGHT UP" in respect of Boiler &amp; Aux and ESP</del></p> <p>2. <del>"SYNCHRONISATION" in respect of STG/GTG and 'SPINNING' in case of HTG</del></p> <p>3. <del>"STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of Power Cycle Piping</del></p> <p>4. <del>"HYDRAULIC TEST" of the system in respect of Structures, Pressure parts/IBR Piping</del></p> <p>5. "CHARGING" in respect of power Transformers, Bus ducts, HT/LT switchgears</p> <p>6. <del>"Completion of RCC Shell and liner (steel or brick as per tendered scope) up to the HEIGHT specified using slip form" in case of RCC Chimney.</del></p> <p>7. <del>Achievement of physical Quantities as per respective PQRs in respect of Civil &amp; Structures and Piling Works</del></p> <p>8. <del>'Readiness for coal Filling" in respect of Bunker Structure Work.</del></p> <p>9. <del>Boiler means HRSG or WHRB or any other types of Steam Generator</del></p> <p>10. <del>Critical/Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass lines</del></p> <p>11. <del>For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating in terms of MW shall be considered for evaluation.</del></p> <p>12. In case the experience/PO/WO certificate enclosed by bidders do not have separate break up prices for the E&amp;C portion of Electrical and CI Works, (i.e. the certificates enclosed are for composite order for supply and erection of Electrical &amp; CI and other works if any), then value of Erection and Commissioning for the Electrical &amp; CI portion shall be considered as 15% of the supply &amp; erection of Electrical &amp; CI, unless otherwise specifically indicated in the PQR.</p> <p>13. <del>Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine unless otherwise specifically indicated in the PQR.</del></p> <p>14. <del>In case the tendered scope is not a Pulverised Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR.</del></p>
--	---

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 22 of 56**

\*\*\*\*\*

--	--

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 23 of 56**

\*\*\*\*\*

**ANNEXURE - 2**

**CHECK LIST**

**NOTE:- Tenderers are required to fill in the following details and no column should be left blank**

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No:                      Date : Bank :                      Amount: Please tick ( ✓ ) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with <b>PRE QUALIFICATION CRITERIA</b> (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable	YES/NO
8	Copy of PAN Card	Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable	YES/NO
10	Integrity Pact	Not Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable	YES/NO
12	No Deviation Certificate	Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable	YES/NO

**BHEL PSWR**  
**Notice Inviting Tender**

**Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049**

**Page 24 of 56**

\*\*\*\*\*

15	Non Disclosure Certificate	Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable	YES/NO
20	Analysis of Unit rates	Applicable	YES/NO

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED  
**ABOVE APPLICABLE DOCUMENTS** ARE LIABLE TO BE SUMMARILY REJECTED.

**DATE :**  
(With Name, Designation and Company seal)

**AUTHORISED SIGNATORY**



\*\*\*\*\*

ANNEXURE 3: **IMPORTANT INFORMATION**

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site ( [www.bhel.com](http://www.bhel.com)---> Tender Notification -> List of Banned Firms)

Rev 00  
6<sup>th</sup>  
JULY

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CONTENTS

---

<b>SI No</b>	<b>DESCRIPTION</b>	<b>Chapter</b>	<b>No. OF PAGES</b>
<b>Volume-IA</b>	<b>Part-I: Contract specific details</b>		
1	Project Information	Chapter-I	1
2	Scope of Works	Chapter-II	10
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III	8
4	T&Ps and MMEs to be deployed by Contractor	Chapter-IV	2
5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V	1
6	Time Schedule	Chapter-VI	2
7	Terms of Payment	Chapter-VII	1
8	Taxes and other Duties	Chapter-VIII	2
9	Tender Drawings	Chapter-IX	2

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - I: Project Information

---

### PROJECT INFORMATION

VINDHYACHAL SUPER THERMAL POWER PROJECT IS PIT-HEAD COAL BASED PROJECT OWNED BY NATIONAL THERMAL POWER CORPORATION. 6X210 MW & 4X500 MW UNITS ARE PRESENTLY OPERATIONAL. PRESENTLY 2X500 MW UNITS BTG PACKAGE ARE UNDER EXECUTION BY BHEL.THE CAPACITY OF PLANT IS BEING AUGMENTED BY INSTALLATION OF ADDITIONAL 1X500 MW SET ADJACENT TO THE EXISTING UNITS IN STAGE -V.

THE PROPOSED POWER STATION IS LOCATED IN SINGRAULI DISTRICT OF MADHYA PRADESH HAVING LATITUDE AND LONGITUDE OF 24° 6'N AND 82° 40'E RESPECTIVELY. THE SITE IS SITUATED ON NORTH –WESTERN BANK OF RIHAND RESERVOIR.

NEAREST TOWN IS RENUKUT AT A DISTANCE OF 50 KM FROM THE PROJECT. THE NEAREST BROADGAUGE RAIL HEAD SHAKTINAGAR RAILWAY STATION, IS APPROXIMATELY 2.0 KM AND SINGRAULI RAILWAY STATION, IS APPROXIMATELY 24 KM AWAY FROM PROJECT SITE. MIRJAPUR STATION IS APPROXIMATELY 200 KM AWAY FROM THE PROJECT. PROJECT IS ACCESSIBLE BY ALL SEASON ROAD FROM VARANASI - ROBERTSGANJ– RENUKUT OR SINGRAULI – WAIDHAN ROAD. THE NEAREST AIRPORT IS VARANASI.

### OTHER IMPORTANT DATA

HIGHEST AMBIENT TEMPERATURE : 44<sup>0</sup> C

LOWEST AMBIENT TEMPERATURE : 1<sup>0</sup> C

THE TENDERERS ARE HOWEVER, ADVISED TO ACQUAINT THEMSELVES WITH THE SITE CONDITIONS, BEFORE QUOTING. NO COMPENSATION WHATSOEVER, ON ACCOUNT OF NON-FAMILIARISATION WITH THE SITE CONDITION WILL BE ENTERTAINED.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

### 2.0 SCOPE OF WORK

The scope of work comprises of but not limited to the following: -

- 2.0.1 Open storage yard development, leveling and consolidation (**approx.40,180 sqm**) including removal of dense grass, vegetations, wild growth, trees etc. from open storage yard.
- 2.0.2 Construction of internal roads, drainage, hard surfacing, fencing, gates for open storage yard, Providing and laying RCC Hume pipe culvert as per site requirement.
- 2.0.3 Cabling, electrification and Illumination of open storage yard including cabling from main source of supply (Customer point) and distribution to external panels of store shed, open storage yard.
- 2.0.4
  - i. Construction of cast in-situ pantry and toilet blocks with RCC roof slab for placing of Over Head Water Tank.
  - ii. Sanitary works such as septic tank soak pits, sewer line and connection
- 2.0.5 Construction of Raised Concrete Platform of size 12m x 80m - 1 No. for storage of important consignment/pressure parts etc.
- 2.0.6 Construction of Closed shed (60m X 15m – 1No.) with C&I storage room & MM office.
- 2.0.7 Renovation of existing BHEL site office – 1 no. and Structural Shed - 3Nos. Bidders should note that for renovation work of BHEL site office, the shifting & covering of furniture, etc. and re-arrangement of same is in bidder's scope.
- 2.0.8 Repair of existing Concrete platform.
- 2.0.9 Refurbishment of existing yard (20,000 SQM approx.) including its roads and drains.

All the above jobs shall be as per BHEL Engineer's instructions, drawings, detailed specification and respective bill of quantities furnished in the Rate Schedule.

### 2.1 Responsibility of the Contractor

The contractor shall engage all the unskilled, skilled and especially skilled labour including fabricators, welders and fitters etc. and supervisory staff. Only trained and competent personnel with previous experience in the job shall be employed. However, BHEL reserves the right to decide on the suitability of the workers and other personnel who will be employed by the contractor. BHEL reserves the right to insist on removal of any employee of the contractor at any time, if they found him unsuitable. The contractor shall be bound to follow the instruction of BHEL.

#### 2.1.1

All the materials like steel, windows, doors, ventilators, trusses, structural members, foundation bolts, MS bars, painting materials, G.I. Sheets, MS square bar and necessary electric goods etc. shall be supplied by the contractor as per the specification mentioned in the tender/Indian standard specification. The contractor is required to quote their rates inclusive of cost of all

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

materials, labour, etc. BHEL reserves the right to inspect and reject any material not found satisfactory.

### 2.2 General

#### 2.2.1

During execution of the job, it is very essential that proper and adequate inspection should be made constantly by the contractor to maintain quality of workmanship and to ensure that deviations from BHEL drawings not exceed the permissible limits, which shall be approved by BHEL. **The contractor shall submit test reports of all materials being procured by them for the job and also offer for inspection by BHEL. All the testing charges shall be borne by the contractor.** BHEL engineer shall carry out the inspection of quality of material being purchased/arranged, quality/composition of materials used during construction work and workmanship. Decision of BHEL engineer shall be binding on the contractor.

#### 2.2.2

Contractor shall furnish the **manufacturers test certificate** for the steel & cement procured by them. Apart from this all the field test shall be arranged by contractor for cement, bricks, coarse & fine aggregates either at site or near by Field Quality Lab. approved by BHEL if so desired by BHEL's engineer. All the expenses in these regards shall be borne by contractor.

Contractor shall procure reinforced/ structural steel & cement from reputed manufacturer & approval for the same shall be obtained from BHEL well in advance before ordering for the materials.

#### 2.2.3

The contractor shall visit the site and ascertain the local conditions, entry and traffic restrictions, all obstructions in the area and also ascertain all site conditions and particularly the sub-soil conditions etc. **The contractor shall carry out the survey to study the properties of soil/sub soil like strength to withstand the weight of structure during all weather conditions without sinking of foundation.** If any of such defects like cracks, sinking of foundation etc. occur after completion of work till the performance guarantee period, it shall be rectified by contractor free of cost including the supply of materials required. No claim shall be entertained on this account under any circumstances from the contractor.

#### 2.2.4

The contractor shall provide and maintain at his own cost pumps and other equipment to keep the work free from water and continue to do so until the handing over of the work. The contractor shall clear all trees, rubbish, vegetation, brickbats etc. And dispense them suitably in allotted areas at his own cost.

#### 2.2.5

The contractor shall take adequate precautions to ensure complete safety and prevention of accidents at site. The safety precautions shall conform to IS codes wherever applicable.

#### 2.2.6

The contractor shall level the site in accordance with the sequence of earth leveling to maintain the proper gradient as per the instruction of BHEL; as soon as construction activity is over. Payment towards this shall be released as per the relevant items available in B.O.Q.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

### 2.2.7

The work though not specifically mentioned either in the drawings or in the tender specification but are needed to complete the work as per site requirement & instruction of Engineer are also in the scope of this contract & to be erected to the entire satisfaction, for which the payment shall be released as per the respective item rate of **Rate Schedule**. **If the item is not available in the rate schedule the rate shall be derived as per CPWD- DSR-2012 rate schedule latest version with applicable escalation.**

### 2.2.8

The contractor shall provide and maintain at his own cost all T & P for carry out the work. The T & P shall be for fabrication of the structures and for the purpose of erection of columns, trusses, purlins bracings etc complete.

## 2.3

The detailed tentative drawings and specifications for the following works will form part of the tender documents. BHEL reserves the right to modify/alter the tender drawings, if necessary during the actual execution at site.

- 2.3.1 Specification for Civil Works of Shed with C&I storage room, New Open Storage Yard (40180 SQM) Roads & Drains and its electrification work, Raised concrete platform, 12Mx80M – 1No.), Renovation of existing BHEL site office and Structural Shed 3 Nos., Repair of old Concrete platform, Road & Drain, refurbishment of existing yard (20,000 SQM approx.)

### 2.3.2

Standard specifications for various items of work for building and road construction as per the relevant IS-codes (latest edition) shall be applicable for this work. The work has to be executed as per standard specification and drawings to the satisfaction of BHEL. However, the following Drawings/Sketches are to be read along with specifications and shall be treated as in the scope of work. Please refer **Appendix – IX for drawings**.

### 2.3.3

**These drawings are indicative and strictly for tendering purpose, only meant to give an idea to tenderers about nature of job.** If any changes in the layout, plan, section, partition, truss, columns etc. are felt necessary by BHEL Engineer to suit site requirement, the same shall be done by contractor as per revised sketches/drawings given by BHEL engineer. Contractor shall ensure/ascertain the stability, safety of the said work. Any modification/variation from the said drawings, if necessary as suggested by the contractor will have to be approved by BHEL in writing.

## 2.4 Preparation of actual layout and BOQ as per site condition.

- (a) BOQ & drawing given in tender is tentative only as the tender is prepared on the basis of preliminary information which may vary during execution as per actual site condition. As soon as the area for construction of civil work for office with C&I store and open yard etc.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

is taken over from BHEL/customer, Contractor has to ensure actual layout of office with C&I store and open storage yard, roads, drains and raised concrete platform etc. after doing detailed survey of site. Contractor shall submit detailed survey report after plotting in graph sheet along with actual BOQ for each & every work - section wise and submit the same to BHEL for further comparison with the respective BOQ. All endeavors have to be made to restrict the quantities as per BOQ except some "exceptional cases" which are very necessary due to site condition. Individual item qty. variation may be allowed up to reasonable extent unless the overall executed value of the contract is within the LOA value. For any variation beyond the total contract value, prior approvals are required from BHEL PSWR HQ before release of payment.

- (b) Item of one Section can be utilized for another Section also (if it is required but not available) being "One Contract". This can be used judiciously to avoid extra items. Measurement of work done shall be recorded in respective section of the item indicating the area of usage.

### 2.4.1

Excavation of Foundation, Roads and Trenches etc shall be made as per IS specification.

### 2.4.2

Any filling/loose soil met below the foundation shall be made up with lean cement concrete 1:4:8 mix (min).

### 2.4.3

Basement and sides of the foundation wall shall be filled in with selected excavated earth including watering, consolidation etc. Complete as per IS specification.

### 2.4.4

**The excess/unutilized suitable earth and debris shall be disposed & leveled to the proposed mentioned area for development. All unusable earth debris, trees, vegetations etc. shall be disposed off at a location embarked by BHEL / Client. Rate quoted for excavation shall be inclusive of such disposal.**

### 2.4.5

Filling under floors / foundations with 100mm/150mm thick layer of compacted selected earth/river sand including watering, consolidation etc. shall be executed as per IS specification and drawings if any. However this can be eliminated in case a hard strata/good stratum is met with in foundation level & PCC shall be done directly in such cases. However this can be decided as per site requirement with discussion with site engineer.

### 2.4.6

**PCC:** below foundation and PCC capping: This shall include supplying and placing PCC at all depths below plinth level including form work, curing, all materials, tools and plants and labour complete. Concrete of 1:4:8/1:3:6/1:2:4 grade as defined in IS- 456 with 40mm/20mm and downgraded stone aggregates as per drawing. Nominal mix (volumetric) shall be allowed to use as per the guidelines of IS-456 (latest edition) with min. W/C ratio & cement content as per IS stipulation for moderate condition. Concrete shall be produced by concrete mixer machine & hand mix is generally not acceptable.



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

**However in certain unavoidable circumstances, hand mix shall be permitted with 10% extra cement content as per the discretion of BHEL engineer.**

### 2.4.7

**Brick masonry:** Brick masonry shall be done by using best quality locally available burnt clay bricks / Fly Ash Lime (FAL) bricks of standard size. Minimum strength of the bricks should not be less than 35 KG/sq. cm. Other quality requirement shall be in line with the relevant IS Code. One-brick thick brickwork shall be constructed as specified, in Cement mortar 1:4 including linking, plumbing, leveling, pacing, joints curing etc. Including all materials, tools, plants and labour complete at all level/elevation.

**Rubble masonry:** Rubble masonry shall be done by using best quality locally available hard stone (black basalt) in foundation/wall. BHEL should be approved quality of stone before placing in use. Irregular hard stones should be rounded off before use. Maximum size of stone should be between 200 – 230mm.

### 2.4.8

**RCC:** RCC 1:2:4 shall be provided for column foundations, pedestal, lintel, sun sheds and roof slab as per IS specification.

### 2.4.9

**Formwork:** The formwork should be capable of carrying the dead load of concrete, the reinforcements and the forces of vibration. The form works shall be designed by the contractor and approved by engineer in charge. After sufficient curing period & after attaining adequate strength of concrete the formwork shall be removed with the approval of BHEL engineer. The item of PCC/RCC shall be deemed as completed after removal of forms and required finishing is completed.

### 2.4.10

Roof cover with FRP/RMP (2.0mm thick) sheet for natural lighting shall be provided with suitable 'J' bolts, GI Cup Washers, GI Plain Washers, and Bitumen Washers etc. Wind ties for protection against lifting of roof by wind etc if any. As per standard practice shall be provided by the contractor.

### 2.4.11

Two coats of Black tar paint shall be provided for the wooden work used in ceiling as per IS specification.

### 2.4.12

#### **Structural works:**

All structural works like roof truss, columns etc. shall be carried out as per drawing given along with the tender. All Associated Fitting materials shall be paid by weight along with the truss.

### 2.4.13

Contractor is permitted to get steel truss & other structures fabricated at workshop outside of the plant premises with prior permission of BHEL. In this case contractor has to arrange for shop

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

inspections periodically as required by BHEL Engineer to ensure the quality of fabrication work. Fabricated structures without inspection/certified by BHEL shall not be allowed for erection.

### 2.4.14

Necessary sanitary and plumbing works shall be provided with necessary water taps and all connections with supply lines/septic tank shall be provided by the contractor for BHEL storage office and open yards. The materials used and the location etc. shall be as per the directions of BHEL engineer.

### 2.4.15

Septic tanks with soak pit/leaching cesspool shall be provided by the contractor at the location specified by BHEL complete in all respects as per IS specification. (It is suitable for capacity of 25 users as per item rate available in the rate schedule). **The drawing attached with tender is indicative only & any changes required at site shall be done as per the instruction of BHEL Engineer.**

## 2.5 Fencing work

### Barbed Wire Fencing

The fencing shall be with MS angles post **50x50x6 mm size – 2M** high (above G.L.) as instructed by engineer in charge, and fixed at every 3M interval with **PCC 1:3:6, 0.30 M x 0.30 M x 0.45 M deep**. It shall be supported with MS angle struts of ISA 50x50x6 every 30M and all turnings on both sides. Barbed wire shall be 10 horizontal and 2 diagonal and shall conform to IS: 278, shall be made of 2 strands of galvanized twisted 2.5 mm (12.5 gauge) steel wire with 4 point barbs. The barbs shall have a length of not less than 13mm and not more than 18mm. (For further details Refer relevant item of BOQ & Drawings).

## 2.6 Electrical Installations

### 2.6.1 General

#### 2.6.1.1

The electrical installation shall generally be carried out in conformity with the requirements of the Indian electricity act, 1910 as amended up to date and the Indian electricity rules, 1956 framed there under and also the relevant regulations of the electric supply authority concerned as well as IS: 732-1963 (revised). **Before commencement of work Contractor has to submit detail electrical layout drawings prepared by experienced & licensed electrical agency/engineer indicating the cable route, internal/external panels, cable sizing, fittings & fixtures etc. in line with the BOQ for open storage yard area and shed with C&I store & office .**

#### 2.6.1.2

Good workmanship is an essential requirement for compliance with the rules in the code. The work shall be carried out under the direct supervision of a person holding a valid certificate of competency issued by the state government concerned for the type of work involved.

#### 2.6.1.3

All out door/external lamps shall have weather proof fittings of design approved by BHEL Engineer so as to effectively prevent the admission of moisture.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

### 2.6.1.4

The distribution fuse boards shall be located as near as possible to the center of the load they are intended to control.

### 2.6.1.5

All main switches shall be of metal clad enclosed pattern, which shall be fixed at close proximity to the point of entry of supply.

### 2.6.1.6

Main and branch distribution boards shall be in accordance with Indian standard 732-1963 "code of practice for electrical wiring installation".

### 2.6.1.7

PVC conduit (concealed type) wiring system should be adopted through out and all conduit pipes/channel shall be conforming to latest IS.

### 2.6.1.8

Approved and good quality copper wire with adequate current carrying capacity/voltage rating with proper insulation as per IS should be used for the entire electrical wiring/installation.

### 2.6.1.9

The service connection from outside mains to the switchboard inside the building shall also be carried out by the contractor.

## 2.7 Earthing

### 2.7.1

All Earthing system shall be in accordance with IS: 3043-1966 "code of practice for Earthing".

### 2.7.2

The installation and Earthing shall generally be carried out in accordance with the Indian electricity rules 1956 as amended from time to time and the relevant regulations of the electricity supply authority concerned.

### 2.7.3

All plugs and sockets shall be of three-pin type, one of the pins being connected to earth.

### 2.7.4

Bodies of all electrical appliances shall be earthed by the use of three pin plugs. The covers of the regulators if of metallic construction, shall be earthed by means of a separate earth wire. A separate earth wire shall be used for earthing these appliances.

### 2.7.5

All earth wires and earth continuity conductors shall be of copper/-galvanized iron. They shall be either stranded or solid bars of flat rectangular strips and may be bared, provided, due care is taken to avoid corrosion and mechanical damage to it. Inter connections of earth continuity conductors and main and branch earth wires shall be made in such a way that reliable and good electrical connections are permanently ensured.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

### 2.7.6

The neutral conductor shall not be used as earth wire.

### 2.7.7

Welded, bolted and clamped joints only are permissible. For stranded conductor, sleeve connectors are permissible. Bolted connectors and their screws shall be protected against any possible corrosion.

### 2.7.8

The path of the earth wire shall, as far as possible, be out of reach of any person and shall be visible for inspection.

### 2.7.9

The galvanized iron pipe electrodes shall not be smaller than 38mm internal diameter and shall not be less than 3.5M. In length and shall, as far as possible, be embedded below permanent moisture level and shall be one piece only without any joints.

### 2.7.10

**Dewatering:** It is the responsibility of the contractor to engage sufficient dewatering pump (Diesel, electrically operated) of adequate capacity for dewatering of sub-soil, rain water from excavated pit and other localized area and keep the area dry and workable till completion of entire work within their quoted rate.

## 2.8 GENERAL NOTES FOR STEEL DOOR, WINDOWS, AND VENTILATORS

### 2.8.1 STEEL/ IRON WORK

**Steel Door:** - Pressed steel doors as per standard specification, relevant IS code and sizes shall be supplied along with frames and fixed with suitable hold fasts, furniture and fittings.

**Steel Window:** - All steel Windows shall be supplied and fixed as per standard specifications, relevant IS code and instructions of Engineer-in-charge with all furniture, fittings, holdfasts etc. Complete.

**Steel ventilators:** - All steel ventilators shall be supplied and fixed as per standard specifications, relevant IS code and instructions of Engineer-in-charge with all furniture, fittings, holdfasts etc. Complete.

Contractor shall arrange for shop inspection for all steel doors, windows, rolling shutters & trusses etc. if fabricated outside the plant, before delivery at site for Engineer's clearance.

### 2.8.2 PAINTING

All the steel items such as doors, windows, ventilators, roof trusses, columns, purlins etc. shall be supplied with one coat of red oxide primer; two coats of synthetic enamel paint of approved color and quality shall be applied after fixing in position to achieve uniform finishing. Rates shall be quoted taking into account cost of painting for woodwork, steel work etc.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

### 2.8.3

Three coats of white/color washing shall be provided uniformly on all wall surfaces as per IS specification.

### 2.8.4

PVC water tank of Sintex or any approved make shall be supplied and erected on brick pillars or steel staging and to be constructed on location shown as per item rate given in rate schedule.

## 2.9 Specification of roofing structure for store shed with C&I house office.

### 2.9.1 General

#### 2.9.1.1

This specification covers the roofing structure of **store shed with C&I house office**. Pre-fabricated tubular/structural steel trusses (curved type) shall directly rest on column structures and posts with suitable arrangements of bolting.

#### 2.9.1.2

The scope under this specification shall cover trusses with tubular (**CLASS B-MEDIUM QUALITY**) /structural steel made up of MS rolled sections, purlins, batten tie runners, and fixing bolts for trusses. FRP/RMP sheets for roofing complete with J-bolts, I-bolts, gutters and down pipe (if any) etc. Any other item not specifically mentioned but required for completion of the structure shall be deemed to have been included in this specification.

#### 2.9.1.3

The trusses shall be tubular (**CLASS B-MEDIUM QUALITY**), fabricated in pieces of convenient length for transportation by truck and speedy erection at site. The base plates shall be welded to the trusses for fixing/resting the same on supports. Suitable cleats or fixing plates shall be provided on the trusses for holding the purlins and the bottom tie runners. Bolts shall be fixed in columns and posts by using templates for fixing truss. These foundation bolts shall be paid under structural items of rate schedule whereas base plates, clits etc. fixed with truss shall be paid under tonnage of truss only. No separate payment shall be made for templates. Work shall be done as per BHEL Drawings.

#### 2.9.1.4

The purlins and bottom tie runners shall be of structural steel sections or steel tubes of adequate size to give proper strength and rigidity. 2.00mm thick FRP/RMP sheets shall be used for the roof of the bunk house complex area. The sheet shall be of standard size for trusses, FRP/RMP sheets for roofing complete and shall conform to IS 459. The sheets shall be fixed to purlins with galvanized J or I bolts. GI cup washers and bitumen washers shall be provided where holes are made in FRP/RMP sheets to prevent any water leakages. Fly strips shall be provided over the FRP/RMP sheets for additional protection against storms. Providing & fixing 'J' bolts, washers etc. shall be a part of FRP/RMP sheet fixing & no separate weight shall be paid for this.

#### 2.9.1.5

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II: Scope of Works

---

All the bolts, nuts and washers supplied for the assembly of the structure shall be hot dipped galvanized and of metric sizes. All the members shall be given two coats of anti-rust red oxide primer paint after proper cleaning of the surface.

### 2.9.1.6

All the members of the structure shall be of standard dimensions and shall provide complete flexibility for assembling in the required number of days. The expansion of the structure in lengthwise direction shall be possible with minimum dismantling of the existing members.

### **2.10 Providing & laying of pipelines for Water supply to storage shed as well as for construction purpose:**

**NTPC** (Customer) will provide construction water and drinking water supply at single point (**approx. 200m**) inside the plant free of cost. Main supply pipe line of 40mm dia. GI pipe shall be laid up to the Overhead water tank near **store shed** location for water supply to BHEL office premises. Internal plumbing if any shall be done in BHEL Store office toilet blocks as per requirement through 25mm/20mm/ 15mm dia GI pipes as per requirement. However contractor has to arrange tankers or further distribution pipeline up to the work site for Construction purpose from this point within their quoted rates.

### **2.11 Prior Approval from BHEL Engineer**

Contractor shall take prior approval from BHEL Engineer for use of Sanitary items, FRP/RMP sheets, PPGI Sheet for roofing, Overhead water tanks, Doors, Windows, ventilators **Type of Cement (OPC/PPC)**, Brick, Steel, structural steel and for other items as specified in respective items description and necessary **manufacturer's test certificate (MTC)** and laboratory test as required by BHEL shall be arranged by contractor within their quoted rate.

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

---

Sl.No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1	<b>ESTABLISHMENT</b>			
3.1.1	<b>FOR CONSTRUCTION PURPOSE:</b>			
a	Open space for store with C&I storage room (as per availability)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability)	Yes		Location will be finalized after joint survey with owner
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipments, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
f	Fire fighting equipments like buckets, extinguishers etc		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
3.1.2	<b>FOR LIVING PURPOSES OF THE BIDDER</b>			
a	Open space for labour colony (as per availability)	Yes		Location will be finalized after joint survey with owner

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

Sl.No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2.0	<b>ELECTRICITY</b>			
3.2.1	<b>Electricity for construction purposes 3 Phase of Voltage 415/440 V (To be specified whether chargeable or free)</b>			FREE
a	Single point source	Yes		At a distance of 500M from site (Distance is only estimated, it may vary up to an extent depending on site condition)
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	<b>Electricity for the office, stores, canteen etc of the bidder (to be specified whether chargeable or free)</b>			Chargeable (Applicable Tariff)
a	Single point source	Yes		At a available distance from site (Distance may vary up to an extent depending on site condition)



**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

Sl.No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	<b>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc.</b>	Yes		Chargeable (Applicable Tariff)
a	Single point source	Yes		At a available distance from site (Distance may vary up to an extent depending on site condition)
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
<b>3.3.0</b>	<b>WATER SUPPLY</b>			
3.3.1	<b>For construction purposes: (to be specified whether chargeable or free)</b>			FREE

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

Sl.No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
a	Making the water available at single point	Yes		In case of inadequate supply / non-availability of construction water from customer, contractor shall have to arrange construction water at his own expenses.
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.2	<b><u>Water supply for bidder's office, stores, canteen etc.</u></b>			Chargeable(Applicable Tariff)
a	Making the water available at single point	Yes		
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.3	<b><u>Water supply for Living Purpose</u></b>		Yes	Chargeable (Applicable Tariff)
a	Making the water available at single point	Yes		
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.4.0	<b>LIGHTING</b>			

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

Sl.No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
a	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
b	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
c	Providing the necessary consumables like bulbs, switches, etc during the course of project work		Yes	
d	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
3.5.0	<b>COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER</b>			
a	Telephone, fax, internet, intranet, e-mail etc.		Yes	
3.6.0	<b>COMPRESSED AIR wherever required for the work</b>			<b>Not Required</b>
3.7.0	<b>Demobilization of all the above facilities</b>		<b>YES</b>	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

---

<b>Sl.No.</b>	<b>Description</b> <b>PART I</b>	<b>Scope / to be taken care by</b>		<b>Remarks</b>
		<b>BHEL</b>	<b>Bidder</b>	
3.8.0	<b>TRANSPORTATION</b>			
a	For site personnel of the bidder		Yes	
b	For bidder's equipments and consumables (T&P, Consumables etc)		Yes	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

---

Sl.No	Description  <b>PART II</b>  <b>3.9.0 ERECTION FACILITIES</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.9.1	Engineering works for construction:			NOT APPLICABLE
a	Providing the erection/constructions drawings for all the equipments covered under this scope	Yes		<b>For Details PI refer Chapter-II-</b>
b	Drawings for construction methods	Yes	Yes	In consultation with BHEL
c	As-built drawings – where ever deviations observed and executed and also based on the decisions taken at site- example – routing of small bore pipes			NOT APPLICABLE
d	Shipping lists etc for reference and planning the activities			NOT APPLICABLE
e	Preparation of site erection schedules and other input requirements		Yes	In consultation with BHEL
f	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL
g	Weekly erection schedules based on Sl.No. e		Yes	In consultation with BHEL

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

---

Sl.No	Description  <b>PART II</b>  <b>3.9.0 ERECTION FACILITIES</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
h	Daily erection / work plan based on SL No. g		Yes	In consultation with BHEL
i	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	
j	Preparation of pre-assembly bay			NOT APPLICABLE
k	Laying of racks for gantry crane if provided by BHEL or brought by the contractor/bidder himself			NOT APPLICABLE
L	Arranging the materials required for preassembly			NOT APPLICABLE

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – IV: T&Ps and MMEs to be deployed by Contractor**

---

**A: TOOL & PLANTS**

DESCRIPTION
1) Concrete Mixture -2nos 2) Vibrators- 2nos 3) Leveling instrument with calibration certificate as per required 4) Theodolite with calibration certificate as per required 5) Shuttering materials as per requirement 6) Cube moulds required nos and testing arrangement 7) Slump testing cone as required 8) Pump with Motor required for curing 9) DG Set (of Minimum 63 KVA )-1No 10) Diesel/Petrol/Electric Pump set (2.5 HP )-4no 11) Electric Water Pump (1.5HP )-2no 12) Welding Transformer-3nos 13) Gas cutting Set- 3 Nos 14 )Drilling Machine- 2Nos 15)JCB- 1No 16) Water Tanker- 1No 17) Road Roller- 2 No 18) Tractor- Trailer- 2No 19)Tripper-2Nos 20 )Chain Pulley Block (3T)- 3No 21) Grinding Machine-2Nos 22) Fire extinguishers & Fire Buckets-2Nos 23) Tractor with scrapper arrangement for leveling & grading of open storage yard
<b>NOTE</b> The above list is only indicative and not exhaustive. Arrangement for any other T and P required for completion of the job shall be the responsibility of the contractor and shall be arranged by him.

TECHNICAL CONDITIONS OF CONTRACT (TCC)  
Chapter – IV: T&Ps and MMEs to be deployed by Contractor

---

**B: MEASURING AND MONITORING DEVICES (MMD):**

AS PER REQUIREMENT TO BE FINALIZED AT SITE.

**NOTE:**

THIS ABOVE LIST IS ONLY INDICATIVE AND NEITHER EXHAUSTIVE NOR LIMITING. QUANTITIES INDICATED ABOVE ARE ONLY THE MINIMUM REQUIRED. CONTRACTOR SHALL DEPLOY ALL NECESSARY T&P TO MEET THE SCHEDULES & AS PRESCRIBED BY BHEL ENGINEER AND REQUIRED FOR COMPLETION OF WORK.



**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – V: T&Ps and MMEs to be deployed by BHEL on sharing  
basis**

---

**BHEL WILL NOT PROVIDE ANY MATERIAL OR ANY T & P's FOR THIS WORK**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: Time Schedule

### 6.1 TIME SCHEDULE & MOBILIZATION

#### 6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

Contractor shall reach site, make his site establishment and be ready to commence the work within two weeks from the date of fax Letter of Intent or as per directions of Construction Manager/ Project Manager of BHEL.

The contractor has to subsequently augment his resources in such a manner that the entire related works are completed to achieve the following **tentative** schedule:

**Milestone activities - Break up activities completion period:**

SL.NO.	MILESTONE ACTIVITY	PERIOD
1	Renovation of existing BHEL site office, including their associated works	Two (2) month from the date of handing over of office by BHEL at site
2	Repair of Structural shed 3 Nos.	Three (3) month from the date of handing over of office by BHEL at site
3	Construction of Closed Store Shed with office and C&I storage (60m x 15m) – 1 No. including its associated electrifications, plumbing & finishing works.	Four (4) months from the date of first excavation at site.
4	Development of 50 % Open Storage area along with Roads, Drains, fencing and Repair of Structural shed 3 Nos. and Cabling and External Lighting of Yard/ illumination woks.	Three (3) months from the date of first excavation at site.
5	Construction of raised concrete platform (80mX12m) – 1 No. at open storage yard	One and half (1.5) months from the date of first excavation at site.
6	Refurbishment of existing yard & repair of old concrete platform, Roads, Drains. And associated work	Two (2) months from the date of first excavation at site.
7	Balance 50% development of Open Storage area along with Roads , Drains, hard surfacing, Fencing around Open Storage area and Cabling and External Lighting of Yard & other left out misc. jobs	Six (6) months from the date of first excavation at site.

THE OVERALL CONTRACT PERIOD SHALL BE **6 (SIX) MONTHS**.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: Time Schedule

---

### 6.1.2

In order to meet above schedule and other intermediate targets/activities as set by BHEL Engineer In charge at site, to meet customer requirements/project schedule, contractor shall arrange all necessary resources and work force in consultation with BHEL engineer at site to under take works concurrently in all possible fronts as made available to contractor.

CONTRACTOR SHALL NOTE THAT INDIVIDUAL MILESTONES AS ABOVE SHALL BE ACHIEVED AS PER SCHEDULE FURNISHED ABOVE. THE DATE OF START OF FIRST EXCAVATION SHALL BE RECKONED AS THE START OF CONTRACT PERIOD FOR THIS PURPOSE.

THE CONTRACTOR SHALL REACH SITE AND ESTABLISH HIS SITE OFFICE AND MOBILIZE NECESSARY RESOURCES WELL IN ADVANCE OF ACTUAL COMMENCEMENT OF THE CONTRACT TIME SCHEDULE AS PER DIRECTIONS OF BHEL ENGINEER. THE DATE OF COMMENCEMENT FOR THE PURPOSE OF CLAUSE.

**DATE OF START OF WORK SHALL BE THE DATE ON WHICH FIRST EXCAVATION WORK IS STARTED.**

The contractor shall complete all the work in the scope of this contract within the contract period.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VII: Terms of Payment

---

### **Stages of Progressive Payments**

#### 12.1.4.1

The percentage of payment for progressive completion of work in various categories of work shall be as under:

The RA bill payment shall be made as made as per CI no 10.0 of Chapter –X of SCC (page-44)

### **QUANTITY VARIATION**

GCC Clause No. 2.14 (Quantity Variation), Page No. 23 is modified as under for this contract

#### **2.14.1**

The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 30 % of awarded contract value.

#### **2.14.2**

All other condition as per clause No. 2.14.2 of GCC shall remain unchanged.

### **PRICE VARIATION COMPENSATION**

GCC Clause No. 2.17 for PVC shall not be applicable for this contract.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Other Duties

---

### **TAXES, DUTIES, LEVIES**

#### **8.0 TAXES, DUTIES, LEVIES (Consolidated Rev 02 dated 20/09/2012)**

##### **8.1 'Enabling Works'**

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit. ( i.e. **rates quoted by bidder shall be inclusive of Service Tax, VAT/WCT and all other taxes and duties** )

However, Since the proposed work is in the nature of 'Works Contract service' as per Service tax law, Hence, For non-corporate contractors being Individual, HUF, Proprietary Firm, Partnership Firm or Association of Persons (AOP), BHEL shall recover the applicable Service Tax under reverse charge mechanism from the contractor and remit the same with the Government as per the provisions of Law. Necessary advice/confirmation of remittance shall be issued to the contractor. The contractor shall not be eligible for any refund/reimbursement of such service tax from BHEL. It shall be the responsibility of the contractor to submit proper invoice giving all the requisite details as per Service Tax Law for the determination of the service tax liability of BHEL under reverse charge mechanism. BHEL reserves the right to determine such liability based on the invoice submitted by the contractor or otherwise independently and remittance of the same with the Government.

##### **8.2 New Taxes/Levies**

In case the Government imposes any new levy/tax on the output service/ goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.

In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same **before opening of Price Bid**. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Other Duties

---

### **8.3 BUILDING & OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 (BOCW Act) AND RULES OF 1998 READ WITH BUILDING & OTHER CONSTRUCTION WORKERS CESS Act, 1996 & CESS RULES, 1998.**

In case any portion of work involves execution through building or construction workers, then compliance to the above titled Acts shall be ensured by the contractor and contractor shall obtain license and deposit the cess under the Act. In the circumstances it may be ensured as under:-

- i. It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a licence to the Competent Authority under the BOCW Act and obtain proper certificate thereof by specifying the scope of its work. It shall also be responsibility of the contractor to furnish a copy of such certificate of licence / permission to BHEL within a period of one month from the date of award of contract.
- ii. It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under these act and rules including that of payment / deposit of 1% cess on the extant of work involving building or construction workers engaged by the contractor within a period of one month from the receipt of payment.
- iii. It shall be the responsibility of the sub-contractor to furnish the receipts / challans towards deposit of the cess together with the number, name and other details of beneficiaries (building workers) engaged by the sub-contractor during the preceding month.
- iv. It shall be the absolute responsibility of the sub-contractor to make payment of all statutory payments & compensations to its workers including that is provided under the Workmen's Compensation Act, 1923.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-IX DRAWINGS

FOLLOWING DRAWINGS ARE ENCLOSED WITH THE TENDER

SL.NO.	DRAWING/SKETCH No.	TITLE
1)	BHE/PW/CS - 01:	PLAN AT PLINTH LEVEL OF CLOSED SHED (60M X 15M)
2)	BHE/PW/CS - 02:	SECTIONAL DETAILS OF RCC FOOTING AND COLUMN FOR CLOSED STORAGE SHED
3)	BHE/PW/CS - 03:	PLAN OF FOOTINGS
4)	BHE/PW/CS - 04:	SECTION OF PLINTH BEAM
5)	BHE/PW/CS - 05:	SECTION OF TIE BEAM.
6)	BHE/PW/CS - 06:	SECTION OF LINTEL AND PROJECTION FOR CLOSED STORES ROLLING SHUTTER
7)	BHE/PW/C0S-01:	PLAN FOR CLOSED SHED WITH OFFICE (60M X 15M) AND C&I ROOM (10M X 6M)
8)	BHE/PW/C0S-02:	SECTION OF LINTEL AND PROJECTION FOR CLOSED STORES MAIN DOOR (OUT SIDE)
9)	BHE/PW/C0S-03:	DETAILS OF BRICK FOUNDATION
10)	BHE/PW/OY-01:	LAYOUT FOR OPEN STORAGE AREA
11)	BHE/PW/OY-02:	SECTIONAL DETAILS OF WBM ROADS. (6 & 8 M)
12)	BHE/PW/OY-03:	DRAIN DETAILS 0.4M DEPTH
13)	BHE/PW/OY-04:	DRAIN DETAILS 0.5M DEPTH
14)	BHE/PW/OY-05:	DRAIN DETAILS 0.6M DEPTH
15)	BHE/PW/OY-08:	DRAIN DETAILS 1.0M DEPTH
16)	BHE/PW/OY-09:	CULVERT DETAILS FOR 400MM DIA. RCC HUME PIPE
17)	BHE/PW/OY-10:	CULVERT DETAILS FOR 600MM DIA. RCC HUME PIPE
18)	BHE/PW/OY-11:	DETAILS OF BARBED WIRE FENCING
19)	BHE/PW/ ST.SP-01:	SEPTIC TANK
20)	BHE/PW/ ST.SP-02:	SECTION OF BAFFLE BEAM
21)	BHE/PW/ ST.SP-03:	DETAILS OF SOAK PIT
22)	BHE/PW/GATE:	DETAILS OF GATE
23)	BHE/PW/CP-01:	DETAILS OF RAISED CONCRETE PLATFORM.
24)	BHE/PW/STAG-01:	STAGING OF OVER HEAD TANK
25)	BHE/PW/CS-07:	DETAILS OF BASE PLATE AT TRUSS LEVEL OF CLOSED

BHEL-PSWR

Tender Specification No: BHE/PW/PUR/VNT5-ENB/1049

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-IX DRAWINGS

---

### STORAGE SHED

- 26) BHE/PW/CS/SS-08: DETAILS OF 15.00 m SPAN TUBULAR TRUSS FOR CLOSED / SEMI-CLOSED SHED

#### **NOTE:**

The above drawings are tentative and strictly for tender purpose only. Changes in the drawing as per site requirement will be intimated during execution.

These drawings are the property of BHEL and should not be made use of by the contractor except for the purpose of implementing this contract. All these drawings should be returned to BHEL on completion of the work.

The interpretation of BHEL engineer regarding the details shown in the drawing shall be final, conclusive and binding.

These drawings are for tendering purpose. The work shall be executed with the approval of drawings by BHEL during execution.

DATE

SIGNATURE OF TENDERER WITH SEAL